



Excellence in Compliance Testing

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## **Certification Exhibit**

**FCC ID: ODB-LANCER450030**

**FCC Rule Part: 15.247**

**ACS Project Number: 12-2148**

Manufacturer: ValidFill, LLC  
Model: HD011SA002

## **RF Exposure**

**General Information:**

Applicant: ValidFill, LLC  
 ACS Project: 12-2148  
 Device Category: Mobile  
 Environment: General Population/Uncontrolled Exposure

**Technical Information:**

Antenna Type: PCB Loop Antenna  
 Antenna Gain: 0.55 dBi  
 Maximum Transmitter Conducted Power: 20.47 dBm, 111.43 mW  
 Maximum System EIRP: 21.02 dBm, 126.474 mW  
 Exposure Conditions: Greater than 20 centimeters

**MPE Calculation**

The Power Density (mW/cm<sup>2</sup>) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

- S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)
- P = power input to the antenna (in appropriate units, e.g., mW)
- G = power gain of the antenna in the direction of interest relative to an isotropic radiator
- R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

MPE Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure*							
Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm <sup>2</sup> )	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )
900	20.47	0.60	111.43	0.55	1.135	20	0.025

**Installation Guidelines**

The installation manual should contain text similar to the following advising how to install the equipment to maintain compliance with the FCC RF exposure requirements:

**RF Exposure**

In accordance with FCC requirements of human exposure to radio frequency fields, the radiating element shall be installed such that a minimum separation distance of 20 centimeters will be maintained.

**Conclusion**

This device complies with the MPE requirements by providing adequate separation between the device, any radiating structure and the general population.